

REMARKS/ARGUMENTS

Applicant has carefully reviewed and considered the Office Action mailed on October 1, 2008, and the references cited therewith.

Claims 1, 17-18, 20-24, and 56 are amended. Claims 4-5, 11-12, 16, 19, 25-25, 28, and 32-55 have been cancelled. Claims 1, 2, 6-10, 13-15, 17-18, 20-24, 27, 29-31, and 56-59 remain pending in this application. Further consideration and allowance of the remaining claims is respectfully requested.

§102/103 Rejection of the Claims

Claims 1-2, 6-10, 13-24, 56-59 were rejected under 35 USC § 102(b) as being anticipated by or in the alternative under 35 USC 103(a) as obvious over Kendall et al. Applicant has amended claims 1 and 56 to better define and distinguish the Applicant's invention over the art made of record. Accordingly, Applicant respectfully traverses the rejection based on the claims as amended.

Applicant has amended independent claim 1 and independent claim 56 to include the limitations that the fluid sensor is on a substrate and includes the FET with the functionalized semiconductor, a control device that is non-functionalized but otherwise identical to the FET, an integral heater configured to allow control and selection of temperatures for at least one of calibration and setting of gas sensitivity and an integral thermal insulation, all disposed on the substrate. This combination of elements is not described, taught, or suggested by Kendall alone or in combination with the other art made of record. By combining all these devices onto a single substrate and allowing for precision calibration and temperature control, the fluid sensor is able to have excellent gas sensitivity such that by selecting sensor operating temperature in accordance with measurements by the integral temperature sensor a user may select a particular fluid to detect.

Contrarily, Kendall teaches selection of the fluid for detection by adjusting "the oxide thickness" "to detect different size and shaped molecules" (Kendall, col. 9, lines 21-23). Kendall does not disclose having an integral temperature sensor on the substrate that is "configured to allow control and selection of temperatures for at least one of calibration and setting of gas sensitivity (see Applicant's disclosure, page 8, lines 21-23).

The Examiner in the Office Action asserts that because Kendall in col. 13, lines 4-7 notes "that the membranes may be heated and cooled in incredibly short times" that there is a heater in Kendall or obvious to add a heater. However, Kendall's statement is a description of the characteristics of the membranes of its sensor and does not necessarily imply there is a heater present as Kendall further states the "thin membrane is very sensitive to current and voltage variations while operating as an environmental or flow sensor (col. 13, lines 18-20). Thus, just having the air flow across the sensor causes the temperature of the sensor to change and affect the voltage and current to sense the amount of airflow, thus there is no need for a heater in this application Kendall's sensor. Therefore, there is no inherent mention in Kendall of an "integral heater on the substrate" as Applicant is claiming.

Nor does Kendall disclose, teach, or suggest that there is "an integral temperature sensor on the substrate configured to allow control and selection of temperatures for at least one of calibration and setting of gas sensitivity." By combining the control device that is non-functionalized but otherwise identical to the FET that is functionalized, the functionalized FET can calibrated accurately such that by having an integral heater disposed proximate to the FET and having an integral temperature sensor configured to allow control and selection of temperatures for calibration or gas sensitivity, a particular fluid may be detected by selection of the FET operating temperature by measurement of the integral temperature sensor.

As noted in the Applicant's specification on page 9, lines 1-8:

To summarize this method of using a fluid sensor that has an integral heater and an integral temperature sensor: the user associates with each of two or more fluids to be sensed a different operating temperature range effective for sensing the fluid to be sensed, senses a temperature of the fluid sensor by operating the integral temperature sensor, and actuates the integral heater to adjust the temperature range, whereby one of the fluids to be sensed is selected for sensing.

Accordingly, this selection of fluid detection via temperature control is a new capability/feature which is not found in Kendall or the other art made of record and is thus inventive and patentable over all art made of record.

For instance, in Section 7 of the Office Action, the Examiner rejected claims 25-32 under 35 USC 103(a) as being unpatentable over Kendall in view of Holm-Kennedy. The Examiner asserts that Holm-Kennedy teaches an array of sensors with the same or differing receptors to provide rapid measurements and includes a temperature sensor to monitor incubation conditions present during the chemical reaction of interest (col. 16, lines 43-49). Accordingly, as noted by the Examiner, Holm-Kennedy is detecting different molecules by using different sensors (see col. 9, lines 14-23) and/or by changing the sensitivity of the sensors through back-gate modulation (see col. 10, lines 1-8 and col. 10, lines 52-62). The mention of temperature by Holm-Kennedy is to "monitor incubation conditions present during the chemical reaction of interest (including attachment and dissociation)." Nowhere does Holm-Kennedy disclose having the integral temperature sensor "configured to allow control and selection of temperatures for at least one of calibration and setting of gas sensitivity" as Applicant is claiming. Further, Holm-Kennedy alone or in combination with Kendall does not disclose "wherein selection of the FET operating temperature by measurement of the integral temperature sensor, a particular fluid may be detected." Accordingly, claims 1 and 56, as amended, are patentable over both Kendall and the combination of Kendall and Holmes-Kennedy. Withdrawal of the various rejections under 102(b) and 103(a) for claims 1 and 56, as amended, is respectfully requested.

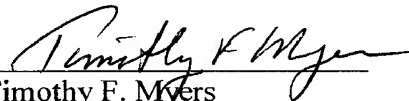
Based on the amendments made to claims 1 and 56, dependent claims 4, 5, 13, 16, 19, 25, 26, and 28 have been cancelled due to their incorporation into the independent claims. Restricted claims 33-55 have been cancelled. The remaining dependent claims are believed patentable based at least on the patentability of their respective parent claims.

CONCLUSION

Applicant respectfully submits that claims 1, 2, 6-10, 13-15, 17-18, 20-24, 27, 29-31, and 56--59 are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney Tim Myers at (541) 715-4197 to facilitate prosecution of this matter.

At any time during the pendency of this application, please charge any additional fees or credit overpayment to the Deposit Account No. 08-2025.

Respectfully Submitted
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